Prolegomenon to the study of the concepts of maturity and maturity model
From Black Horse to White Knight?

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Abstract

This paper takes its root in a trivial observation: management approaches are unable to provide relevant guidelines to cope with uncertainty, and trust of our modern worlds. Thus, managers are looking for reducing uncertainty through information's supported decision-making, sustained by ex-ante rationalization. They strive to achieve best possible solution, stability, predictability, and control of "future". Hence, they turn to a plethora of "prescriptive panaceas", and "management fads" to bring simple solutions through best practices. However, these solutions are ineffective. They address only one part of a system (e.g. an organization) instead of the whole. They miss the interactions and interdependencies with other parts leading to "*suboptimization*". Further classical cause-effects investigations and researches are not very helpful to this regard.

Where do we go from there? In this conversation, we want to challenge the assumptions supporting the traditional management approaches and shed some lights on the problem of management discourse fad using the concept of maturity and maturity models in the context of temporary organizations as support for reflexion. Global economy is characterized by use and development of standards and compliance to standards as a practice is said to enable better decision-making by

managers in uncertainty, control complexity, and higher performance. Amongst the plethora of standards, organizational maturity and maturity models hold a specific place due to general belief in organizational performance as dependent variable of (business) processes continuous improvement, grounded on a kind of evolutionary metaphor.

Our intention is neither to offer a new "evidence based management fad" for practitioners, nor to suggest research gap to scholars. Rather, we want to open an assumption-challenging conversation with regards to main stream approaches (neo-classical economics and organization theory), turning "*our eyes away from the blinding light of eternal certitude towards the refracted world of turbid finitude*" (Long, 2002, p. 44) generating what Bernstein has named "*Cartesian Anxiety*" (Bernstein, 1983, p. 18), and revisit the conceptualization of maturity and maturity models. We rely on conventions theory and a systemic-discursive perspective. These two lenses have both information & communication and self-producing systems as common threads. Furthermore the narrative approach is well suited to explore complex way of thinking about organizational phenomena as complex systems. This approach is relevant with our object of curiosity, i.e. the concept of maturity and maturity models, as maturity models (as standards) are discourses and systems of regulations. The main contribution of this conversation is that we suggest moving from a neo-classical "*theory of the game*" aiming at making the complex world simpler in playing the game, to a "*theory of the rules of the game*", aiming at influencing and challenging the rules of the game constitutive of *maturity models* – conventions, governing systems – making compatible individual calculation and social context, and possible the coordination of relationships and cooperation between agents with or potentially divergent interests and values. A second contribution is the reconceptualization of *maturity* as structural coupling between conventions, rather than as an independent variable leading to organizational performance.

Keywords: maturity, maturity models, management fad, neo-classical economics, organization theory, conventions theory, systemic-discursive perspective.

1. Introduction

1.1 Background

We start this paper with a trivial observation about management approaches that are unable to provide relevant guidelines to cope with uncertainty, and trust of our modern worlds (Hock, 1995). Thus, managers are looking for reducing uncertainty through information-supported decision-making, sustained by ex-ante rationalization. They strive to achieve best possible solution, stability, predictability, and control of "future" (Gomez, 2006; Stacey, 2010). Hence, they turn to a plethora of "prescriptive panaceas", and "management fads" (Jackson, p. xiv) to bring simple solutions through best practices (Kurtz, & Snowden, 2003).

However, these solutions are ineffective. They address only one part of a system (e.g. an organization) instead of the whole. They miss the interactions and interdependencies with other parts leading to "*suboptimization*" (Jackson, 2003, p. xiv). Further, as demonstrated by Stacey (2010, p. 13), there is a "*lack of evidence base for prescriptions of the dominant discourse*". Classical cause-effects investigations and researches are not very helpful to this regard, and once again, we posit that:

- The difficulty of providing traditional scientific evidence (generalizable knowledge about causal relationships) in an uncertain and complex world (Stacey, 2010, p. 17);
- The above, because of the problem of demonstrating causal relationship "if x… then y" (not statistical correlations or associations), with regards to the non-repetitiveness of events in non-linear uncertain and complex set of relationships between variables or factors, by contrast with linear relationships, where causalities are certain, leading to define and produce optimal state (efficiency), rational decision-making (autonomous choice and rational selected goals based on calculation), and formative (revealing and realizing a mature form already given) (Stacey, 2010, p. 48).

Hence, the dominant evidence based fad notwithstanding, and its onto-epistemological fault line (Eikeland, 2008, p. 25) "*managers are called upon acting of facts rather than on beliefs, personal experience, and politicking, and to continually test, probe, and experiment with their approaches to the organization*" (Stacey, 2010, p. 15).

1.2 Focus and approach

Where do we go from there? Jackson (2003; total systems intervention and critical systems practice), and Stacey (2010; complex responsive system coupled with related tools and techniques (Jackson, 2012) suggest more holistic approach. In this conversation, we want to shed some lights on the problem of management discourse fad using the concept of maturity and maturity models in the context of temporary organizations.

Global economy is characterized by use and development of standards (Bredillet, 2003; Brunsson et al., 2000). Compliance to standards as a practice enables better decision making by managers in uncertainty, control complexity, and higher performance (e.g. ISO/IEC Guide 2:2004, definition 3.6; Hatto, 2010, p. 7). Amongst the plethora of standards, organizational maturity and maturity models hold a specific place due to general belief in organizational performance as dependent variable (March & Sutton, 1997) of (business) processes continuous improvement, grounded on a kind of evolutionary metaphor. Organizational maturity is defined as "*a measure to indicate how excellent business processes can perform i.e. expected performance*" (Van Looy et al., 2012, p. 2) or "*that allows organizations to evaluate their capabilities with regard to a certain problem area*" (Rosemann & de Bruin, 2005, p. 2; Röglinger et al. 2012, p. 329; also see Van Looy et al, 2011b,p.1127-1128). From an "objective" third-party assessment and continuous improvement perspective, (Mettler, 2011, p. 82), maturity models are defined as follows: "*Based on the assumption of predictable patterns, maturity models basically represent theories about how organizational capabilities evolve in a stage-by-stage manner along an anticipated, desired, or logical maturation path (Gottschalk 2009, Kazanjian & Drazin 1989)*" (Pöppelbuß & Röglinger, 2011, p. 4). Building on this, Van Looy et al. state that maturity models "*are evolutionary models for measuring (as-is) and improving (to-be) maturity, or 'the*

extent to which an organization consistently implements processes within a defined scope that contributes to the achievement of its business goals' (ISO/IEC, p .2)" (Van Looy et al, 2011a, p. 3). Maturity models serve three distinct purposes (de Bruin et al., 2005; Pöppelbuß & Röglinger, 2011, p. 4—5): 1) Descriptive purpose, including the assessment of the current situation (as-is level) against given criteria and the methodology. The level of maturity can be communicated and used to by both internal and external stakeholders; 2) Prescriptive purpose, including identification of the desirable situation (to-be level), and selection of improvements to be implemented. This aspect has an internal focus; 3) Comparative purpose, aiming at internal or external benchmarking. This purpose relies on external factors such as industry standards and adoption, availability of data and information suppliers-customers market practices. With regards to their purposes of use, the development of organizational maturity models are understood as "*innovative artefact useful for coping with human and organizational challenges*" (Pöppelbuß & Röglinger, 2011, p. 5), relying on design science (Rosemann & de Bruin, 2005; Mettler & Rohner, 2009; Pöppelbuß & Röglinger, 2011; Mettler, 2011; Van Looy et al, 2011a; Van Looy et al., 2001b; Van Looy et al., 2012). Design theories present different ways of using existing or new knowledge which leads to generate creative designs on one hand, and create designs resisting variation on the other hand (e.g. General Design Theory, Axiomatic Design, Coupled Design Process, Infused Design, and Concept-Knowledge (C-K) Theory; Hatchuel et al., 2011).

Maturity models are designed for and used in organizational context and settings. Heraclitus made it clear "*No man ever steps in the same river twice*" (Plato about Heraclitus' doctrine in *Cratylus*, 402a). On the ground of this fundamental statement, we suggest reversing the perspective between temporary and permanent organization, i.e. we pose that any organization is to some extent temporary, as transforming itself or part of itself in permanence. Thus permanent organizing is an extreme case of organizing, rather than temporary organizing. In our investigation we then consider the definition and context of temporary organizations described in the literature (e.g. Lundin & Söderholm, 1995, Packendorff, 1995, Bakker, 2010) as: "*temporary organizational forms should be regarded "as inexorably interwoven with an organizational and social context which provides key resources of expertise, reputation, and legitimization" (Grabher, 2004a, p. 1492;* Bakker, 2010, p. 468).

However, in contrast with Bakker, we argue that the relationships with the broader organizational and social context are dialogic (Wegerif, 2008, p. 347) rather than dialectic (Bakker, 2010, p. 481), meaning rooted of some mechanisms of coordination constitutive of meaning rather than on differences to be overcome. Therefore, we consider as a normal state of affairs, uncertainty (Stark, 2000, p. 3), hidden knowledge (Gomez & Jones, 2000, p. 697) and information with regards to communication and a pluralistic organizational context, i.e. "*… characterized by multiple objectives, diffused power and knowledge-based work processes*" (Denis et al., 2007, p. 179). The aspects will be developed later.

Our intention is neither to offer a new "evidence based management fad" for practitioners, nor to suggest research gap to scholars. Rather, we want to open an assumption-challenging (Alvesson & Sandberg, 2013) conversation with regards to main stream approaches, turning "*our eyes away from the blinding light of eternal certitude towards the refracted world of turbid finitude*" (Long, 2002, p. 44), and generating what Bernstein has named "*Cartesian Anxiety*" (Bernstein, 1983, p. 18), and revisit the conceptualization of maturity and maturity models. We rely on conventions theory (Dupuy et al., 1989; Gomez & Jones, 2000; Eymard-Duvernay et al., 2003; Boltanski & Chiapello, 2005; Boltanski & Thévenot, 2006; Gomez, 2006) and a systemic-discursive perspective (Luhmann, 1992, 1996, 2005, Hernes & Bakken, 2003, Seidl, 2007). These two lenses have both information & communication ("discourse", used here in a fundamental way, i.e. "*all actions are embedded in a discursive context which defines the meaning of the action*" (Seidl, 2007, p. 202)) and self-producing systems as common threads (Luhmann, 1992, p. 1420, 1422; Stark, 2000, p. 5; Gomez & Jones, 2000, p. 700; Hernes & Bakken, 2003, p. 1512; Gomez, 2006, p.222, 225; Seidl, 2007, p. 201, 202). Furthermore as aptly noted by Tsoukas & Hatch (2001, p. 980), the narrative approach is well suited to explore complex way of thinking about organizational phenomena as complex systems (also: Jackson, 2003, p. 258—260; Stacey, 2010, p. 89; Stacey, 2012, p. 110). This approach is relevant with our object of curiosity, i.e. the concept of maturity and maturity models, as maturity models (as standards) are discourses, as shown by Brunsson et al (2000, p. 161) and systems of regulations (Brunsson et al., 2000, p. 1; Gomez 2006, p.218).

Figure 1 provides an overview of the conceptual articulation of the paper.

Figure 1 about here

1.3 Organization of the conversation

After setting the scene in section one, we examine and describe, in section two, the concept of maturity and maturity model, and their building blocks through the traditional standardization perspective, unveiling fundamental assumptions. We discuss the neoclassical economic and organization theory roots. This leads us to consider the limitations of the traditional perspective with regards to the pluralistic context of temporary organizations and to suggest revisiting the concept of maturity and maturity model to enrich the theory. The conventions theory and systemic discursive perspectives are developed in section three. In this, firstly, we define the notion of convention according to its sociological economic perspective and secondly, we discuss how a conventionalist approach can enrich the concept of maturity models. The concept of maturity as structural coupling between conventions part of the same “ecology of discourse” is then analysed. In the concluding section, we offer a summary contrasting the classical standardization perspective with the richer conventions theory and systemic-discursive perspective, as well as some implications for maturity management. We close the conversation, underlining some areas for further research.

2. Maturity and maturity models theoretical underpinning: a need for alternate perspective

The above discussion on maturity models under the classical standards, and standardization perspective leads us to underlying domains supporting this perspective: the neoclassical economics and organizational theory.

2.1 Neoclassical economics roots

Neoclassical economics, the dominant school in economics, relates to supply and demand to an agent's rationality, and his or her ability to maximize utility and value by employing available information and factors of production (e.g. http://www.businessdictionary.com/definition/neo-classical-economics.html#ixzz2PuxVuxbt, accessed 9 April 2013).

The following are three assumptions of neoclassical theories (Gomez, 2006, p. 219):

- Individual agents have rational preferences and are intelligent and capable of interpreting the signals they receive;
- They are autonomous, define the own private utility or profits – individuals maximize utility and firms maximize profits – specially the one leading them to be concerned by such or such information;
- Any exchange between agents, acting independently, is located par reciprocal, full and relevant information.

Considering the previous development we note that standards are expected to achieve benefits such as increased productivity, access to new markets, and facilitate free and fair global trade. All these benefits are rooted in rationality, utility and profit, and transparency of information. The definition of standard itself is related to market equilibrium. This perspective is supported by calling on theories such as the resource based view ("increasing productivity"), the market-based view ("market needs"), and the encompassing stakeholder-based view ("multi-stakeholder process). Maturity models are very strongly related to a resource-based view ("*organizational capabilities*", "*achievement of business goals*" "competitive advantage"), as well as the broader stakeholder-based view (e.g. the different purposes of use). The market-based view is characteristic as well (descriptive purpose of use and degree of abstraction of the information).

2.2 Organization Theory(ies) roots

Besides these above-mentioned relatively obvious roots in neoclassical economics, three key aspects are to be emphasized in relation to organizational theory(ies).

First, maturity models (standards) are established by *consensus,* and facilitate interoperability, and consensus among stakeholders by relying on equilibrium enabling predictability (Stacey, 2010, p. 20). Under this view, *mutual coordination* (Parsons & Shills, 1951) between two parties occurs via a normative orientation, common norms and values that exist prior to the interaction, and "*can only take place against a common background of meaning that is abstracted from the particularity of the situation (Parsons, 1951)*" (Hernes & Bakken, 2003, p. 1516). This normative orientation forms the double contingency that is imposed on them (Hernes & Bakken, 2003, p. 1517).

Second, maturity models aim at enabling actions on the basis of full and available, relevant, and *transparent information*. From the equilibrium based view of "organization, we are moving towards "organizing" (Weick, 1974, 1979). This is supported by process-based theories where "*The focus on actions rather than on structure puts the subject in the center and opens up subjective interpretations of organizational reality*" (Hernes & Bakken, 2003, p. 21). Subjects are assumed to be acting autonomously, setting goals, and making rational decisions founded on availability of information (Stacey, 2010, p. 11). Maturity models are designed to support rational assessment on the basis of transparent information, decision-making and improvement actions.

Third, because of the assumptions made about consensus and transparency of information, individuals are assumed able to act on the basis of stable, *certain* structures enabling complexity reduction and calculation of the likely outcomes of their actions. This assumption about certainty is embodied in standards (see ISO definition).

2. 3 However…

Brunsson et al. (2000, pp. 169—172) summarize the "pros" vs. "cons" standards and standardization debate. For the "pros", standards are effective way of transmitting information (content, compliance or accreditation/certification). They have coordinating function (products, actors) and reduce the amount of information

needed. They bring some degree of simplification reducing the number of possibilities to be considered. They offer “good” or “best” practices providing good or best solutions, and they support innovation. Lastly they facilitate similarity, helping to manage for instance interface between systems, making things much easier for industries or consumers. From the “cons” perspective, maturity models are seen as reducing freedom and restricting intervention from people from the outside and imposing restrictions on uniformity to products, services, markets… They lead to restrain differentiation, and thus inhibit innovation and creativity by making people or organizations more alike..

Despite this debate between the “pros” and “cons” of standards and standardization, its response to the organization’s performance problems still remains. More “standard” standardization is expected to lead to higher performance. Often agents are confounded by the illusion of control created by equilibrium, and processed-based views of maturity models, rooted in the “*mechanistic and rationalistic theories that have historically dominated organization and management studies” (*Tsoukas & Cummings, 1997, p. 655). This is notwithstanding the fact that quantitative management studies, which have modelled performance as a dependent variable, failed to deliver their promise of managerial advice (March, & Sutton, 1997). Along with other authors (Daft & Buenger, 1990; Lampel & Shapira, 1995), the general conclusion drawn by Kieser & Nicolai (2005) is that “*the search for stable success factors is as futile as the search for the philosopher’s stone*” (p. 276) and that “*the potential of performance research to create actionable knowledge is limited*” (p. 275).

If we want to make sense of this debate, we need to go beneath the surface of the opinions, and revisit the very assumptions on which the normative perspective is grounded.

On a neoclassical economics standpoint, the assumption made by the standard model is that the rules of the game are stable: decision made on the basis of calculation (utility) supported by information today will still make sense in the future. Thus two kinds of information- information about future state of rules of the game, and about the decisions made must be reliable. Uncertainty comes from two aspects: according to Knight (1921), there is never a comparable situation in the past

that can provide relevant information and guidance for the future, while for Keynes (1936, 1964), uncertainty occurs from the choice of one individual depends on simultaneous and non-predicable choice of other individuals. In this context of *fundamental uncertainty* (Dequech, 2001) information transfer is not sufficient to ensure coordination between actors. Furthermore, Dequech (2011) aptly explains, several types of uncertainty are considered in economics: weak uncertainty (defined by a fully reliable probability distribution), and by contrast strong uncertainty (absence of such distribution). Weak uncertainty is linked to substantive uncertainty (lack of some relevant and good-quality information), while strong uncertainty is linked to: 1) substantive uncertainty, including on the one hand ambiguity (uncertainty about probability, pre-determined or knowable *ex ante* list of events or states usually known, and thus utility can be calculated) and on the other hand, fundamental uncertainty (possibility of non-pre-determined structural changes, non-pre-determined or not knowable *ex ante* list of events or states); 2) procedural uncertainty (limited cognitive and computational capabilities of the agents). Under conditions of fundamental uncertainty, self-interested agents cannot act rationally, according to neoclassical economics, i.e. cannot calculate *ex ante* as they lack of stable information and means of evaluation. This applies to the design and use of maturity models: defining possible future states (maturity levels), and information supposed to guide decision and action *ex ante* seem to raise questions...

Considering the organizational theory standpoint, the organizing context, described as "*Chaordic*" (Hock, 1995), shows increasing volatility, uncertainty, ambiguity and complexity affecting organizations and the socio-economic environment within which they operate. Two main dimensions are considered having a key impact in organizational studies and organizing: uncertainty, and its two dimensions- volatility and ambiguity, and, complexity. Because action (e.g. the making of organizing via maturity models takes place over time), and because the future is unknowable, action is inherently uncertain (Aristotle, 1926, 1357a; Von Mises, 1949). Acts involve time, irreversibility, indeterminacy and contingence, uncertainty and therefore risk. Thus volatility (rate and unpredictability of change in an environment over time which create uncertainty about future conditions), and ambiguity (degree of uncertainty inherent in perceptions of the environmental state irrespective of its change over time), are two dimensions of uncertainty (Carson et al., 2006, p. 1059).

Stacey (2010, p.53) contends that the reality of *uncertainty* is lined to organizational complexity, and the interdependence of the agents. Further, he poses the question "*Is the future given, or is it in perpetual construction?"* (Prigogine, 1997). Addressing this question, Stacey defines two main categories of causalities: 1) causalities of certainties, supporting neoclassical economic principles, and 2) causalities of uncertainties. The causalities of certainties are: a) efficient ("universal, timeless laws, of "if-then" kind"), b) rationalist ("human reason within ethical universals"), c) formative ("unfolding a whole or mature form already unfolded at the beginning in the rules of interaction"); while the causalities of uncertainties are: d) adaptionist – random variation in individual entities / natural selection following some Darwinian evolutionary approach and biology analogies, where the work of organizational theorist focus on routines, and institutional economics seeks legitimacy over competitiveness (Stacey, 2010, p. 55); and e) transformative, where "*local interaction forming and being formed by population-wide patterns*", and in a movement "*perpetually constructed by the movement itself as continuity and transformation, the known and the unknown, at the same time*" (Stacey, 2010, p. 67). If maturity models design and use relies on the causalities of certainty, their ability to address the complex and uncertain world seems to be questionable, under the organizational theory lens.

The inherent uncertainty, about information and lack of knowledge about future events or states, challenges the neoclassical economics assumptions of *information transparency*. Agents need to interpret (coding / decoding) the information in order to make sense of it, and information is not a kind of "pure" flow. Thus, agents' actions cannot be, according to neoclassical economics theory, only the product of rational calculation where the information is fully accessible and transparent (Gomez, 2006, p. 220).

Considering the conditions of fundamental uncertainty and the resulting necessary information interpretation, rather than transparent information, leads to raise the questions of *consensus*, the problem of double contingency, and the challenge of cooperation. Contrasting the neoclassical approach, the assumption of pre-existing norms binding the decisions and actions of the agents cannot be held relevant in a

context of perpetual movement and transformation. Hence, "*consensus is but one possibility for interaction*" (Hernes & Bakken, 2003, p. 1518). Social systems evolution is in essence transformative and not deterministic (Stacey, 2010). Thus, "*contingency lies in the interaction rather than at the abstracted level of norms and, as such, it sets the stage for the emergence of the social system*. *Social order should not be explained transcendentally, but as a circular movement that has neither beginning nor end (Luhmann & Schorr 1990)."* (Hernes & Bakken, 2003, p. 1518). For Luhmann (1996) norms develop over time, not in an evolutionary "*natural and inescapable*" way (Hernes & Bakken, 2003, p. 1518), but rather is a transformative way (Stacey, 2010, p. 58). Thus, in a Luhmannian perspective and complex systems perspective:

> "*a cooling of the assumption of the importance of common norms may well help us better understand how cooperation forms in less institutionalized organizations such as virtual and temporary organizations, where the assumption about the prevalence of norms particular to the organization in question is less applicable*." (Hernes & Bakken, 2003, p. 1518)

The inherent interpretation of information and the fact consensus and cooperation are not the stable and deterministic result of a double contingency coming from some transcendental norms and values but rather the transformative fruit of interactions within social systems have a major implication in the way we should consider the "design", the role(s) and relevance of maturity model. Despite the inherent complexity of organizational phenomena and uncertainty about the future, agents make choice and act, which involves the existence of some mechanisms enabling to cope with uncertainty and make decisions. How would agents be able act in the absence of structure for calculating the likely outcomes of the actions leads? (Gomez & Jones, 2000, p. 696). Our point is that conventions, as defined below close the gap between "*free will* [of calculating individuals seen under the lens of neoclassical economics] *and social context* [social determinism under the structuralist lens] *interact to produce both structure and action*" (Gomez & Jones, 2000, p. 696, p. 706, [our contention]).

Thus, by not limiting the analysis of maturity models to neoclassical economics and to organizational equilibrium-based and process-based theories, we wish to open up

for alternative explanations to understand maturity models, i.e. how agents with divergent values and orders of worth achieve cooperation, coordination and regulation, the overarching purpose of maturity models: "*The idea that common norms are not a sine qua non for social action enables a broader repertoire of organizational forms to enter into the analysis*" (Hernes & Bakken, 2003, p. 1518). The alternative explanations we suggest build on a holistic recursivity-based approach (Hernes & Bakken, 2003, p. 1524) which includes aspects such as self-reference, self-producing systems (Luhmann, 1992, p. 1422, Hernes & Bakken, 2003, p. 1513; Seidl, 2007, p. 202; Stacey, 2010, p. 204; Stacey, 2012, p. 9). To do this, we use conventions theory and a Luhmannian systemic-discursive perspective.

3. An alternate approach: conventions theory and systemic discursive perspective

3. 1 Conventions theory

Firstly, we define the notion of convention according to its sociological economics perspective and secondly, we discuss how a conventionalist approach can enrich the concept of maturity models.

The conventionalist perspective focuses on the coordination of human activities and cooperation between agents with or potentially divergent interests and values. In doing so, the conventionalist approach is interested in the systems of values shaping the interactions between individuals. Addressing problems of regulations, rules, norms and cognitive aspects, of methodological individualism and social holism, the conventionalist perspective presented here is to be seen as an integrative approach represented by the French economic sociology stream (see the foundational Special Issue "Revue Economique", Dupuy et al., 1989) at the crossroad of economic, sociology and political science (Eymard-Duvernay et al., 2003), and not as belonging to, for example neo-institutionalism (Daudigeos & Valiorgue, 2010), structuralism (Godechot, 2009), or normative school (Denis et al, 2007, p. 190).

The question of regulation of human activities in society, how do individual and collective interests combine themselves within organization and markets in order to

have an efficient production of goods and exchanges, is at the heart of social sciences, economy and management discipline. Regulation involves rules, and a distinction can be made between governing and administering of rules: the former involves a system of rules and measures that *order* social agents, putting order in their actions *and* giving them orders; the later involves deliberate action, recognized as legitimate, *on* rules and measures, with the objective of increasing the efficiency of the behaviours of the agents submitted to the system of rules (Gomez, 2006). The conventionalist lens brings a new perspective, a paradigm shift, on the matter overturning some assumptions and taken-for-grant perspectives imposed by the dominant neoclassical economics model, and in particular with regards to the concept of *information* (Gomez, 2006, p. 218). Contrasting the neoclassical economics theory where information must be transparent or revealed at some point, another perspective suggests that the hidden part of systems behaviour, hidden knowledge, "*constitutes a central element in the regulation of social interaction, precisely because it is not revealed*" (Gomez & Jones, 2000, p. 697). In order to investigate the nature and role of this hidden knowledge "*constituting the very core of social organization*", we build on a conventionalist lens, providing a "*new perspective on the embedded nature of the individual in society"* (Granovetter, 1985), based on the work of Lewis (1969) and Gomez (1994, 2000).

The "economics" view: reversing the perspective and shifting the paradigm

In contrast to neoclassical economics assuming a universal given meaning of the information, conventions theory suggests that *interpretation of information* must be taken seriously, and that there is a logic to structuring of information, and that this logic is of primary importance in order to understand economic behaviours on the market and within the organizations. Firstly, conventions theory posits that there is no universal interpretation of the information. The social context in which the agents are embedded secures the system of rules enabling the interpretation of the information they handle, and then their behaviour. The system of rules forms a screen securing a system of interpretation of the information. Secondly, social context and individual agents and their behaviours are considered simultaneously. In conventions theory, it is impossible to separate the individual agents and system of rules in which (s)he evolves. An individual agent cannot decide alone in *situation of uncertainty*. Choice,

decision, information do make sense only because they are “measured” i.e. related to a system of rules. Thus the individual agent needs others to decide alone: “*The individual independence is embodied in collective dependence*” (Gomez, 2006, p. 222).

The system of rules in which agents situate themselves when they make a choice is called *convention*. Thus a convention enables to make sense and reasonable individual choices. Conventions and individual agents co-exist: “*individual agents can make decision only because conventions exist, and conventions exist only because some individual agents adopt them*” (Gomez, 2006, p. 222). Conventions theory simplifies the investigation with regards to information economy: the focus is on the relations between individual agents and the convention they refer to, instead of on the multiple relations of information between each of them. Convention brings new socio-economics lights to the relations between individual agents and the social context in which they are embedded, offering a paradigm shift (Gomez, 2006, p. 221—224):

- From individual agents rationality to rationalization, justification and legitimation;
- From autonomous individual agents to rational mimicry of “normal” behaviour being the reasonable behaviour in front of uncertainty;
- From information between individual agents to a screen of information making the others’ behaviours predictable (i.e. what they are supposed to do rather than what they do). Organizing is therefore focusing on the screen of information enabling individual agents to find some kind of dynamic stability with regards to their environment rather than organizing information between individual agents.

Thus, the couple convention-individual agent forms a *governing system*, a system of rules and measures that *order* social agents. The on-going dynamic adjustment between individual agents and the rules enable regulation beyond any explicit “management” policy, and the “conviction” about the “normal” rules constitutes the social cement (Gomez, 2006, p. 224).

"*The nature of conventions*" (Gomez & Jones, 2000, p. 697)

What constitutes a convention? Gomez & Jones (2000, p. 700) answer:

> "*A convention is a social mechanism that associates a rational void, i.e., a set of non-justified norms, with a screen of symbols, i.e., an interrelation between objects, discourses, and behaviors*."

Under conditions of *uncertainty*, self-interested agents cannot act rationally, according to neo-classical economics, i.e. cannot calculate *ex ante* as they lack of stable information and means of evaluation. However, and said above, despite the uncertainty about the future, agents make choice and act, which involves the existence of some mechanisms enabling them to cope with uncertainty and make decisions. Coping with uncertainty involves moving rationality to *rationalization* (Gomez & Jones, 2000, p. 698). In order to do so and to move away from the anxiety of uncertainty, choice and decisions are supported by providing a "reasonable reason" (not an "objectively rational" one) to oneself and to the others, and thus to be able to provide a justification for one's behaviour. However this doesn't address the problem of evaluation by the other of one's justification's validity.

Moving away from this problem of cross-justification involves to assume the existence of beliefs considered as justified *de facto,* never discussed because taken-for-granted. Referring to these non-justified beliefs, individuals do not need to search for others' validation when making choice and decisions. These systems of non-justified beliefs, "*… central and inevitable in social life*" (Gomez & Jones, 2000, p. 699) and "…*making compatible individual calculation and social context, and permitting their co-construction and co-evolution"* (Schumpeter, 1989), are called "*rational voids*" (Gomez, 2006, p. 698). Therefore, investigating the way organizations and/or markets operate requires investigating individuals behaviours and the rational voids they refer to. Interestingly the concept of rational voids enables to get a full understanding on the notion of bounded rationality in contrast to the neoclassical economics view. Here, bounded rationality is not human cognitive limitation (March & Simon, 1958), but rather a rationalization process based of a set of non-justified beliefs which enables individuals to calculate, make choice and

decisions. Boltanski & Thévenot (1991, 2006) demonstrate in their sociological theory of value (orders of worth) that "*there is not just one way of making value but that modern economies comprise multiple principles of evaluation – multiple orders of worth"* (Stark, 2000, p. 3). For Boltanski & Thévenot (1991, 2006) orders of worth are not values balancing value (the American institutionalists' view), but they are the "*very fabric of calculation, or rationality, of value*" (Stark, 2000, p. 4). They posit that bounded rationality is not a cognitive limitation but rationality made possible "*as it takes place within the boundaries of particular orders of worth"* (Stark, 2000, p. 4). We can therefore speak of "*bounded rationalities*" rather than bounded rationality. Thus, orders of worth (conventions) are a way of dealing with risk and uncertainty, transforming uncertainty into risk, as they are "*engine for turning situations into calculative problems*" (p. 4).

In order to avoid the questioning of the non-justified beliefs by an individual and to make sure others reason in relation to a same rational void than an individual agent, a rational void "*is surrounded by a screen of information which provides individuals with signals that they share the same assumptions, and also distracts their attention from questioning it*" (Gomez & Jones, 2000, p. 699). This screen of information operates a screen of symbols, where objects, discourses and behaviours linked together make sense through their interrelationships, and "*they signal the existence of a common interpretation of the information they convey*" (Gomez & Jones, 2000, p. 700). Boltanski & Thévenot (2006) and Boltanski & Chiapello (2005) pay specific attention to agreements and coordination amongst agents within and between organizations are formed. Their work illuminates the way the screen of information, as system of equivalence embedded within the system of rules – what they name "order of worth" (Boltanski & Thévenot, 2006) and plays its role in the dynamic interaction between agents in specific situations. They reject pure sociological (culture, norms imposed from "outside") and neoclassical economics explanations. They suggest a need for conventions between agents, i.e. as seen above, a system of reference providing a common order of worth facilitating for each agent to characterize (representation and interpretation) a specific situation, providing guidance in the relationships, and enabling agreement and coordination.

This view contrasts the neoclassical economics view of “complete and transparent” information, moving to the notion of “convincing” symbolic information creating “*social opaqueness*” (Dupuy, 1989), communication through symbols which removes uncertainty and doubts about the “normal” way of operating.

Complementing the definition provided above, we can make few important remarks. First, individuals adopting a given convention interact with the same screen of symbols; Second, convention and individuals, forming a “*governing system*” (Gomez, 2006, p. 224), inseparable from each other; Third, a convention does exist, is self-fulfilling and stable because the individual agent believes that others believe in it; not because s/he believes in the convention *per se*.

The morphology of a governing system and its dynamic of evolution

In order to understand how conventional systems of rules are constituted and how they modify and transform themselves, we need to consider two characteristics of a convention: morphology and complexity.

Using the work of Boltanski & Thévenot (1991, 2006) and Le Moigne (1990), Gomez (1994, 1996) proposes a general framework describing the morphology of any convention (Gomez, 2006, p. 224). We must note that a convention is not an *ex nihilo* construction, but is the result of individual agents’ behaviours accepting it because they are convinced that others are accepting it. A convention conveys the conviction about its own generalisation. This can be done either by statement (discourse, narrative) or by material apparatus. Thus a convention is described by two sub-subsystems constituting a general referential enabling comparison between different conventions or governing systems:

Statement

1. The Higher order principle providing the convention purpose, considered as “good”, “positive”, in the conventional rules;
2. The distinction provides the typology of the different adopters of the convention, hierarchical relations between them and their relative place;

3. The sanction provides the motives for inclusion or exclusion of an individual, the boundary between the “normal” and the “outlaw”.

Material apparatus

1. The contacts indicate how agents adopting a same convention are interacting, if the often meet each other, in which occasions regular or specific;
2. The technology indicates whether the link between individual and the convention is made via technical media, and whether this technique is a substitute to human being, and therefore to the capacity of interpreting rules;
3. The negotiation examines the degree of tolerance enabling the interpretation of the rules without undermining, challenging or calling into question the convention

With regards to the *complexity* of a convention, Gomez argues that, because a convention is an information & communication system, it is possible to apply the General System Theory principles (Gomez, 2006, p. 226). Thus, the more a convention provides a lot of different signals to the adopters and not repeating them, the more complex it is. In this case adopters have little room for interpretation. Conversely, a convention is slightly complex when it provides few rules but repeat them often. In the latter case, adopters have a lot of room for interpretation.

Linking morphology and complexity leads to analyse a convention using the principle of *coherence* of a convention: two elements of the morphology are “*coherent*” if they contribute to complexity in the same way. They are said “*dissonant*” if each of them has an opposite impact on complexity.

This enables to analyse the *dynamic of evolution* of conventions (Gomez & Jones, 2000): depending the degree of coherence, a convention can be more or less convincing for the adopters or potential adopters and therefore lead to confirmation, modification or disappearance of the governing system (convention – individual agents). The governing system acts on individual agents and is acted by them. Who governs the governing system? This system is a self-organizing and self-regulated system as behaviours and conventions (systems of rules) mutually and recursively interact according to the agents’ shared conviction.

Conventions are dynamically stable patterns. They evolve, modify themselves or disappear according to the way the individual adopters change their behaviours over time. In this evolution, both internal and external dynamics have to be considered. Internal dynamics is concerned by the process or routinization of behaviours. A convention provides individuals conformist behaviours, fruit of a conformist calculation, i.e. which behaviours are considered as “normal”. The more individual routine is coherent with the screen of symbols, the higher the number of other individuals who will adopt the routine. Thus an individual routine becomes a collective routine, a routinized behaviour, a non-justified rule for the adopters and a “normal” behaviour integrated in the rational void. However conventions are never isolated and alternative existing conventions leads to competition between the conventions, and to consider external dynamics. A convention gains adopters as it provides a better way, i.e. more coherent signals from the screen of symbols, to cope with uncertainty. If a competing convention is perceived, via signals received from the screen of symbols to be better, i.e. bringing more coherence between individual and collective rationalization in addressing uncertainty, then the individual will shift. On this basis a convention can resist, providing more coherent signals, adapt, modifying the screen of symbols and structure to gain more coherence and survive, or collapse, the adopters moving to a more convincing convention.

But how the individual action of an adopter can change a convention? No individual action can alone change a convention as a whole however they are interdependent. Adopters of convention refer to the screen of symbols and thus never question the rational void. In order to face dissonance perceived by non-conformists, the adopters can react by reinforcing the screen of symbols either by persuasion, altering the signals in order to decrease the dissonance perceived by non-conformists, or by violence, rejecting the non-conformists and dissonant signal. In both case, adopters tend to protect the convention from doubts (mistrust) and from questioning the rational void. From the point of view of the individuals facing dissonance, they can accept it, move to a more “attractive” convention, or act in order to improve the coherence between the signals of the screen of symbols. The later can be done through local and situational action on the screen of symbols. This discussion shows the role limit of any organizational and managerial action. Gomez & Jones (2000, p. 705) make it clear:

> "*Managers are not planners and decision makers applying a supposedly pure rationality, as they are always included in a social environment which gives both sense and limits to their rationality. They do not choose to act in one convention over another, but rather, as individuals, to escape the inhibiting effect of uncertainty. Once again, for any individual, the fact that the diversity of conventions allows some room for doubt and ambiguity is paradoxically the fact which gives them some freedom for action*."

"Management" supposes a volunteer action on the conventions i.e. on statement, material apparatus, complexity and coherence/dissonance, can modify the conviction of the adopters towards the convention and can therefore support or change the governing system by acting on the system of rules.

Qualification and effort conventions

After this description of the concept of convention, we now pay attention to two categories of governing systems, i.e. the market (qualification conventions) and the organization (effort conventions) (Gomez, 2006, p. 228—234) and to their interface. This interface is the locus of the maturity discourse.

The neoclassical economics "universal" conception of standard market involves a very specific system of rules and related assumptions. Agents cannot (mostly) modify the rules of the game, and the automatic regulation by price competition remains a landmark, any competitive advantage being built on the basis of the ratio price / cost under condition of equilibrium between price / cost and quantity. This is despite the number of "specific exceptional cases" in order to try to better capture the facts, and thus leading to question the "universality" of the concept of standard market. Conventions theory enables us to shift our attention from the generic "market" to a "convention regulating exchanges". In situation of exchange, individuals question both the calculated behaviour they should have to maximise their utility and the rules of the game defining the exchange. Each exchange is supported by specific rules (and thus, a discourse), which constitute the referential of exchange (behaviours, evaluation of the products of the exchange, codes, signals, symbols) for the choice

and decision to be made. The economic space is thus weaved of convention about the “quality” of the supplier and the customer. The “normal” behaviours of the supplier and of the customer are assumed to be shared and provide a reference for each. Each space of exchange is located as a specific governing system associating individual agents (suppliers, customers) and *qualification conventions* (reference, system of rules shared by a sufficient number of adopters). In contrast with the neoclassical market view where changes are always due to exogenous shocks, governing systems (space of exchanges) and rules of the game can change due to some endogenous modifications coming from the conviction of the adopters about what it is “normal” to do. In conventionalist term, the “pure” market is just one particular extreme case, and besides it, a large range of space of exchanges does exist.

An organization can be seen as *effort convention*: the various stakeholders are interested in the survival or the development of its activities. However they are in fundamental uncertainty situation vis-à-vis the organization’s future as the behaviours of the one depends on the behaviours of the others (Knight, 1921; Keynes, 1936, 1964). Here as well, the conventionalist approach reverses the perspective. Instead of focusing on the transfer of information between stakeholders, it aims at describing their referential(s) or orders of worth, i.e. the screen of information enabling the various stakeholders to be convinced that the rules of the game – the expected “normal” effort – according to which they decide and act, are shared. Here the governing system is a dual individual agent – effort convention. The individuals’ behaviours confirm the conventional rules which give sense of the behaviours in a self-organized system. As for any convention, the effort convention is dynamically stable and can evolve according to change of conviction of the adopters and with regards to its coherence. We can note that an organization is NOT an internal market. Relationships between individual agents are “normalized” differently, not according to “exchange” logic, but according to a contribution to “goal commonality” logic.

3.2 Conventionalist perspective on maturity models

On the basis of this presentation of various aspects of conventions theory we can now provide a conventionalist lens of maturity models reflecting a recursive-based organizational perspective and to contrast it with the discussion of maturity models as standards rooted in neoclassical economics and in equilibrium-based and process-based organizational theories as presented above.

The overall aim of a maturity model is to facilitate some mutual coordination between agents and organizations based on a system of rules.

Where the standard perspective focuses on consensus and order imposed by some kind of transcendental and pre-existing normative orientation, common norms and values, the conventionalist perspective focuses on the coordination of relationships and cooperation between agents with or potentially divergent interests and values. Thus maturity models, as conventions, are not deliberately designed from “out there” and used normatively but are dynamically emerge from some self-producing systems of rules and interpretation shared by adopters.

The standard perspective assumes that maturity models use and support available transparent information and on that basis, the autonomous agents can make calculation and rational choice vis-à-vis the future in order to maximize their profits or their utility. By contrast, the conventionalist approach considers that the focus should be on the interpretation of information by agents and therefore maturity models should pay attention to the hidden knowledge and non-justified beliefs as they constitute the core component in the regulation of organizations as social system. Maturity models support, in this perspective, the process of justification leading the rationalization of “reasonable” choice and decision made in a context of lack of “transparent and available” information.

In the standard maturity models world, because of transparent information and some kind of imposed consensus, certainty about the state of the affairs and predictable patterns are available. Maturity models are making a complex world simpler, and based on their calculations, optimal choices and decisions can be made. This is the place for “best” or “good” practices leading, in a predictable way, to organizational capabilities leading to sustainable competitive advantage and higher level of

performance. However, in a conventionalist perspective, the future is inherently uncertain. Therefore, maturity models are forming a screen of information, a screen of symbols constituted of discourses, objects and behaviours, providing agents with signals that they share the same set of non-justified beliefs or assumptions and interpretation of the information they can trust and on the basis of which they can relate to calculate, make choice and decisions.

Some key functions of maturity models, following the neoclassical view, are that they support value creation, improve efficiency and enable management of risk on the basis of risk-taking calculation. Maturity models, in the conventionalist view, recognize various orders of worth (and value is just one of them), making bounded rationalities directed towards agents' common goals and efforts (effort convention), i.e. rationality made possible within the boundaries of a particular order of worth, rather than bounded rationality, which is a cognitive limitation. Furthermore instead of focusing on efficiency in resource allocation to develop for instance sustainable competitive advantage, maturity models, in a conventions theory lens, are about increasing qualifications of organizations to have "better" (whatever it means) access to resources on the market via legitimacy (qualification convention). The consequence is, that instead of reducing all cases to management of risk under certainty (neoclassical view and rational calculation), maturity models, in the conventionalist approach, enable to "exploit" uncertainty, transforming it into risk via orders of worth, i.e. providing the rationalization for calculation.

According to the neoclassical lens, a maturity model is designed in order to fulfil some defined purposes of use (basis, descriptive, prescriptive and comparative). While the most elaborated design approaches supported by advanced design theories (e.g. Concept-Knowledge (C-K theory)) enable to balance the generativeness and the robustness of the model, this view doesn't recognize the emergent self –producing properties of maturity models as a governing system and its inherent dynamic of evolution leading to major issues such as an existing model widely spread within organizations but not convincing and trusted by the adopters and therefore of no relevance. Conventions, through their morphology reflecting the screen of symbols, and their level complexity, generate (generativeness of the screen of symbols vis-à-vis coping with uncertainty, rationalization and conviction of

the adopters) some degree of coherence or dissonance (the robustness of the maturity model) leading to its evolution. This raises the question of the management of the maturity models, including, design, use, evolution of the model. Managing presumes a volunteer action on the governing system, the couple maturity model – Individual agents, the system of rules and measures that *order* social agents. However, as said previously, the on-going dynamic adjustment between individual agents and the rules enable regulation beyond any explicit "management" policy, and the conviction about the "normal" rules constitute the social cement. Thus the way to "manage" (or act interpedently within) a maturity model, i.e. on discourses and behaviours, complexity and coherence/dissonance, is to modify the conviction of the adopters towards the maturity models and therefore lead them support or change the governing system by acting on the screen of symbols reflecting the system of rules. Building on this, we can see that, in a conventionalist perspective, the notion of "accountability" covers a broader field than in the neoclassical approach (bookkeeping and control based on "evidence"), i.e. to make both "*bookkeeping and narration… We keep accounts and we give accounts, and most importantly, we can be called to account for our actions"* (Stark, 2000, p. 5). As stated by Gomez (2006, p. 234) "*Conventions Theory is a theory about the rules of the game rather than a game theory*". Organizing and managing is about playing against and/or challenging the rules of the game (i.e. norms, routines, dominant discourses, organizational habitus) in order to create new positions on the basis of organizational change, differentiation, innovation, entrepreneurship, rather than just playing the game according to rules. The conventionalist approach enables to understand this logic and to formalize this evolution, because the on-going dynamic adjustment between behaviours and rules via conviction about whether they are shared or not, is at the centre of the conventions theory interpretations.

Thus, maturity models seen as conventions are understood as 1) fruit of both emergent and deliberate actions aiming at interdependently changing the rules of the game rather than playing a game with rules imposed from "out there", 2) resulting from both coordination and accommodation between competing orders of worth and discourses, and critics of the predominant logics, 3) a demonstration, via its legitimacy, of the performance of the organization.

3.3. Maturity, structural coupling at the interface between effort and qualification conventions

The above developments suggest an alternate perspective, rooted in conventions theory, for our deeper understanding of maturity models and their dynamic. On this basis, we can now define the concept of *maturity*, using the Luhmannian systemic discursive lens, as the structural coupling between effort and qualification conventions.

The relation between effort and qualifications conventions is at the centre of the analysis of the interface between the organization and the space of exchange, the market. However, in the context of our focus on temporary organizations we should note that:

- the coordination between a specific temporary setting (e.g. a project, a programme) and another temporary setting (e.g. the "parent" organization) is seen as a qualification convention (legitimacy, exchange logic);
- the coordination within a temporary organization (as a whole) is seen as an effort convention (commitment to common goal logic);
- the coordination between an organization (as a whole, including "internal" – or "related", if shared amongst different "parent" organizations – temporary settings) and the space of exchange is seen as a qualification convention.

Maturity models are different discourses, effort convention and qualification convention, for they are covering different logics, contribution to "common goal" logic for the former and "exchange" logic for the latter. The concept of *maturity* is the *structural coupling* between the two systems of rules / conventions / discourses. As stated by Gomez, this enables to "*rethink some problematic such as Quality* [here maturity], *as the dynamic adjustment between the two conventions*" (Gomez, 1994, 2006, p. 235).

<u>Maturity models as autopoietic social systems</u>

We consider conventions here to state that maturity models are autopoietic social systems as they are recursive, self-producing and self-reference systems (Luhmann, 1992, p. 1421; Hernes & Bakken, 2003, p. 1513). Furthermore, from the above discussion, we know that conventions theory is about “taking information seriously” (Gomez, 2006, p. 221) Thus, we can also say that it is also about “taking people seriously” (Luhmann, 1992, p. 1422). Maturity models, as autopoietic social systems, carry the following characteristics:

- Their basic building block is communication (Luhmann, 1992, p. 1423; Hernes & Bakken, 2003, p. 1514), and communication signals are “operated” via a screen of information / screen of symbols) (Gomez & Jones, 2000, p. 699, Gomez, 2006, p. 221);
- Maturity models are emergent self-reproducing, self-organizing systems (Luhmann, 1992, p. 1425; Hernes & Bakken, 2003, p. 1514), with no beginning and no pre-existing or permanent “entity” (Gomez, & Jones, 2000, p. 705; Gomez, 2006, p. 236);
- Maturity models evolve on the basis of coherence / dissonance of signals received to support individuals’ rationalization and enable them to calculate and to make decisions. Each of these decisions, made at a point of time, is a special event, which marks the difference between “before” and “after” (Hernes & Bakken, 2003, p. 1515). Each of these decisions, that is selection, and related behaviours generate continuous trust, mistrust or doubt, and therefore lead to the contingent evolution of the maturity models. (Gomez & Jones, 2000, p. 704; Gomez, 2006, p. 226);
- Maturity models are operationally closed systems. First, in contrast with neoclassical economics theory, conventions theory do not consider information as transparent, but acknowledge the interpretation of the information via the screen of symbols surrounding the set of non-justified beliefs giving meaning to individual choices (Gomez & Jones, 2000, p. 698). Second, in a given convention bounded rationality, not to be understood as a cognitive limitation such as in neoclassical economic perspective, is the rationalization process based of a set of non-justified beliefs and screen of symbols which enables individuals to calculate, make choice and decisions.

(Gomez & Jones, 2000, p. 699) and rationality made possible "*as it takes place within the boundaries of particular orders of worth"* (Stark, 2000, p. 4).

- An important notion with regards to systems boundaries is that they can only be drawn from inside because they are defined by the system of rules, and the screen of symbols supporting the operational closure of the system via self-reference. While being a demarcation from the environment it also allows for co-interpretation of this environment (Hernes & Bakken, 2003, p. 1519). A system is then both operationally closed (boundaries of meaning and symbolic interdependencies) and interactively open (they interact with their environment, system / environment dependencies). As stated by Hernes & Bakken, 2003, p. 1520, "*a system must be closed in order to be open*", and this precisely the point with maturity models;
- Maturity models are the bases by which agents with divergent values and orders of worth achieve cooperation, coordination and regulation (Gomez & Jones, 2000, p. 697; Gomez 2006, p.218; Boltanksi & Chiapello, 2005; Boltanski & Thévenot, 2006; Denis et al, 2007, p. 190). This perspective moves away from the double-contingency problem (external common "norms" forming the background of meaning (Parsons, 1951) existing prior the interaction between agents and imposed to them) and the normative vision of mutual coordination (Parsons & Shills, 1951; Hernes & Bakken, 2003, p. 1518). The later, embraced by neoclassical economic, leads to "consensual" theories. Consensus is just but one possibility of interaction as established by Luhmann which "*opens up alternative explanations for problems such as the relation between action and communication*" (Hernes & Bakken, 2003, p. 1518):

  > "*the main ethical as well as sociological tradition has tried to solve this problem by reference to the existence of norms and values in all human societies, explaining the "oughtness" of norms and values either by nature or by consensus or by some tautological circumscription*." (Luhmann, 1996, p. 509)

- In Luhmann's view, process (consisting of events) and structure are complementary: and presuppose each other: "*structuring is a process and*

processes are structured" (Hernes & Bakken, 2003, p. 1522). Furthermore, actions are not seen as a characteristic of the agents with individual purposes, but as "*residing is the system*" (Hernes & Bakken, 2003, p. 1522). The conventionalist view shares this perspective and Gomez & Jones (2000, p. 696) point that conventions theory close the process / structure gap and "*free will and social context interact to produce both structure and action*" (Gomez & Jones, 2000, p. 696, p. 706). Hence, "*convention and individual action are neither entirely independent nor entirely determinate*". (Gomez & Jones, 2000, p. 705).

Maturity as structural coupling

The structural couplings are forms of simultaneous relations, and analogical coordination between operationally closed systems, which are maturity models for the purpose of this study. Structural coupling has, therefore to be contrasted with causal relationships, digital coordination, or inputs-outputs operations in open systems as espoused by neoclassical economic view. Structural coupling does not contribute to the system's operation with regards to self-reference and self-reproduction but it is a specific mechanism by which the system relates to specific states or perturbations (e.g. deviations from expectations, dissonance with regards to the signals of the screen of symbols or the coherence of the systems of rules) in its environment (Luhmann, 1992, p. 1432). Systems have to cope with the perturbations routed by structural coupling, assimilating and accommodating such ambiguities. One important aspect, raised by Luhmann (1992, p. 1432) is that "*the twin concepts of closure and structural coupling exclude the idea of information "entering" the system from outside*". Moving to discourse, Seidl (2007, p. 209), following a Luhmannian perspective, explains that, within an ecology of discourses – for instance interdependent maturity models, discourses cannot be studied independently, despite their autonomy because of the mutual interaction due to structural coupling between them. The "structures" of the discourses co-evolve. In case of discourses structural coupling occurs through "shared language", i.e. concepts and their attached "labels" serving as signals helping "*the various communications to orient themselves with regards to each other*" (Seidl, 2007, p. 210). This shared language doesn't imply that labels have the same meaning for each discourse, as meaning

provides from each discourse screen of symbols surrounding the rational void, and by very definition of operational closure, is unique to a closed system, i.e. to a convention, which in our case is a maturity model.

We now understand how the interdependence between two different categories of maturity models, effort and qualification conventions, can occur via structural coupling, i.e. shared language and labels serving as common point of references for different maturity models (i.e. different discourses). Maturity models, as conventions, while being unique discourses, are however in mutual interaction through structural coupling, i.e. a shared “maturity” set of concepts and related labels (language). This interdependence and mutual adjustment and orientation between maturity models as effort convention (effort to contribute a common goal inside the “organization” or the network of organizations / alliance) and as qualification convention (“supplier – customer” exchange logic) is only possible via a *shared “maturity” language*. As a consequence, there are no universal norms leading to define the concept maturity and its models. Each maturity model is in essence linked to specific situation while being part an ecology of models (discourses) with which it mutually adjust through structural coupling. Furthermore, the shared general “maturity” concepts and related labels may take source in any of the specific discourses, as there is no specific centre within ecology of discourses, the relations between maturity models being symmetrical (Seidl, 2007, p. 210).

4. Summary of the conversation and suggestions for way forward

4.1 Summary

In this conversation, we show that the roots of classical views of the concepts of maturity and models can be traced back to: Neoclassical economics (including resource, market, and stakeholder based views), and organization theory (including equilibrium and processed based theories). These two sets of theories as assume that: agreement based on consensus and normative double contingency, supported by transparent and available information, and foreseeable future, enabling rational, autonomous agents to calculate optimum utility or profit, in order to support choice and make decision. This drives the generally accepted and taken-for-granted

assumptions that best or good practices lead to higher level of performance and to the faith in “evidence-based” management.

In order to provide deeper understanding of the problem of coordination of human activities and cooperation between agents with potentially divergent interests and values in a context of fundamental uncertainty, we then suggest shifting the attention to interpretation of information, where the role of hidden knowledge, because it not revealed, is central to the regulation of interactions within social systems. Drawing on this, we conceptualize an alternate and richer perspective for maturity models, as conventions, systemic-discursive and self-producing systems, within which coordination is based on the conviction about “normal behaviours” in reference to a system of rules communicated, via a shared screen of symbols, and making possible rationalization and calculation in the context of uncertainty and lack of knowledge. These models are, by nature, evolutionary and dynamically stable. Lastly, we emphasize the role of the concept of maturity, as structural coupling between two categories of maturity models, effort conventions focusing on a commitment to commonality of goal logic, and qualification convention focusing on exchange and legitimacy.

Lastly, and probably the cornerstone of this conversation, the shared general “maturity” concepts and related labels are used and transferred between discourses (conventions i.e. operationally closed systems) where they have, by definition, different meanings (Seidl, 2007, p. 202). While discourses may share the same labels for concepts, the same words may have different meanings in different contexts or discourses (Luhmann, 2005) despite the illusion of shared sense. The transfer of a set of labels from one discourse to another is described as “*productive misunderstanding*” (Teubner, 2000, p. 408). This involve that the labels leave scope for interpretation, “*linguistic ambiguity* [and flexibility] *…allowing words to take new meanings in the context of different language games* [discourses]” (Ashley & Zammuto, 1992, p. 453).

Table 1 summarizes the key tenets of the conversation.

Table 1 about here

To conclude this conversation, we wish to emphasize that maturity models should not be seen as bringing some kind of illusion of “transparent information” and rationality, with the risk of becoming modern panopticons (Foucault, 1977), but rather should be viewed as autonomous and interdependent *discourses* rooted on a symbolic content and its capacity for protecting taken-for-granted beliefs and rational voids creating "*social opaqueness*" (Dupuy 1989), i.e. the conditions for rationalization and trust in situations of uncertainty, and that maturity models studies involve considering the “*ecology of discourses*” (Baecker, 2006; Seidl, 2007).

4.2 Way forward

This conversation is the prolegomenon to a broad research project. The concepts presented here form an investigation framework for in-depth analysis of about 70 business process maturity models both under the neoclassical perspective and under a conventionalist and systemic-discursive lens. The purpose of the research, part of a Collaborative Research Centre in Management Complex projects & Programmes, is one the one hand, to increase the level of consciousness within the partner organizations, that “*the search for stable success factors is as futile as the search for the philosopher’s stone*” (Kieser & Nicolai, 2005, p. 276) and that “*the potential of performance research to create actionable knowledge is limited*” (Kieser & Nicolai, 2005, p. 275); and on the other hand to develop alternate ways of deciding and acting through “*reflexive*” practice (Stacey, 2012, p. 112), with a special focus on how to “manage” the rules of the game with regards to maturity and maturity models.

As research beyond maturity models, we investigate the role of standards as management fashion and their dynamic of emergence and evolution (Brunsson et al, 2000, p. 151; Seidl, 2007, p. 209, 210).

Finally, on a more conceptual standpoint, we explore the concept of standard and theory of standards through a *praxis* perspective (standards, in contrast to explicit,

externalised and formalised rules and norms, are seen as patterns to practices and ways of doing things) (Eikeland, 2007, p. 351; 2008, p. 26).

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Figure 1: Conceptual overview: maturity and maturity models, from a "theory of the game" to a "theory of the rules of the game"

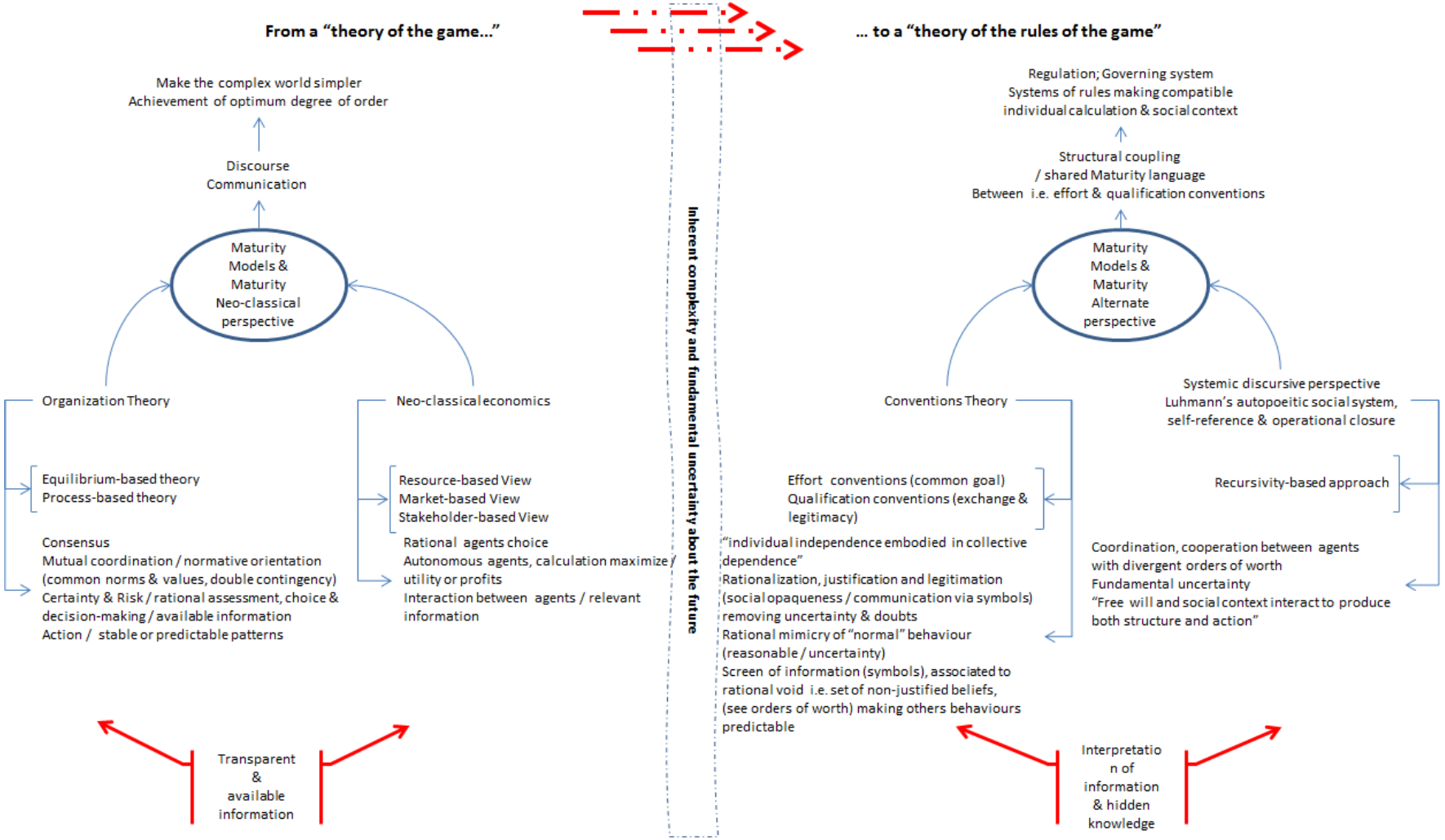

Table 1: The concept of maturity and maturity models: a summary of the alternate perspectives

Perspectives / maturity models	Neoclassical economics and organization theory	Conventions theory and systemic-discursive
Theoretical "economics" roots	Resource-based view, market-based view, Stakeholder-based view	Sociologic economics, sociological theory of value (orders of worth)
Theoretical "organization theory" roots	Equilibrium and process based views	Recursivity-based view
Key assumptions	Information transparency Rationality of the agents Autonomous agents	Screen of information Rationalization, justification and legitimation Mimicry of "normal" behaviours
Key concepts	Consensus, normative mutual coordination (double contingency), stability Available "pure" information Knowledge about the future events and states, risk Efficiency Value Control	Contingency lies in the transformative nature of interaction between agents Interpretation of information by agents Fundamental uncertainty, indeterminacy of information and lack of knowledge about the future events or states Legitimacy Orders of worth Accounts
Regulation	Focus on consensus and order imposed by some kind of transcendental and pre-existing normative orientation, common norms and values. Management: Playing "the game", "game theory metaphor".	Focus on the coordination of relationships and cooperation between agents with or potentially divergent interests and values. Management: challenging the rules, "theory of the rules of the game" metaphor.
Maturity model	"*Based on the assumption of predictable patterns, maturity models basically represent theories about how organizational capabilities evolve in a stage-by-stage manner along an anticipated, desired, or logical maturation path*" (Pöppelbuß & Röglinger, 2011, p. 4). Maturity models "*are evolutionary models for measuring (as-is) and improving (to-be) maturity, or 'the extent to which an organization consistently implements processes within a defined scope that contributes to the achievement of its business goals' (ISO/IEC, p .2)*" (Van Looy et al, 2011a, p. 3).	Maturity model as convention: "*A convention is a social mechanism that associates a rational void, i.e., a set of non-justified norms, with a screen of symbols, i.e., an interrelation between objects, discourses, and behaviors*." (Gomez & Jones, 2000, p. 700) Two majors categories: - Effort convention (commitment to a common goal logic) - Qualification conventions (exchange, legitimacy)
Maturity	Independent variable leading to organizational performance. Organizational maturity can be defined as a measure "*to indicate how excellent business processes can perform i.e. expected performance*" (Looy et al., 2012) or "*that allows organizations to evaluate their capabilities with regard to a certain problem area*" (Rosemann & de Bruin, 2005).	Structural coupling between different conventions